

FIG. 1A-1

FIG. 1A-2

FIG. 1A

FIG. 1A-1	FIG. 1A-2
-----------	-----------

FIG. 1A-1

FIG. 1A-2

EXON	BAC Start	BAC Stop	cDNA Start	cDNA Stop	Exon Length
1	83294	83455	1	162	162
2	89834	89986	163	314	152
3	90696	90839	315	458	144
4	93419	93594	459	634	176
5	96509	96665	635	791	157
6	96983	97300	792	1109	318
7	103044	103142	1110	1208	99
8	104413	104515	1209	1311	103
9	106494	106702	1312	1520	209
10	110048	110141	1521	1614	94
11	110592	111633	1615	2656	1042

poly A signal is position 111614-111619
translation start (ATG) is:
cDNA: 92
Gene: 83385

FIG. 1B

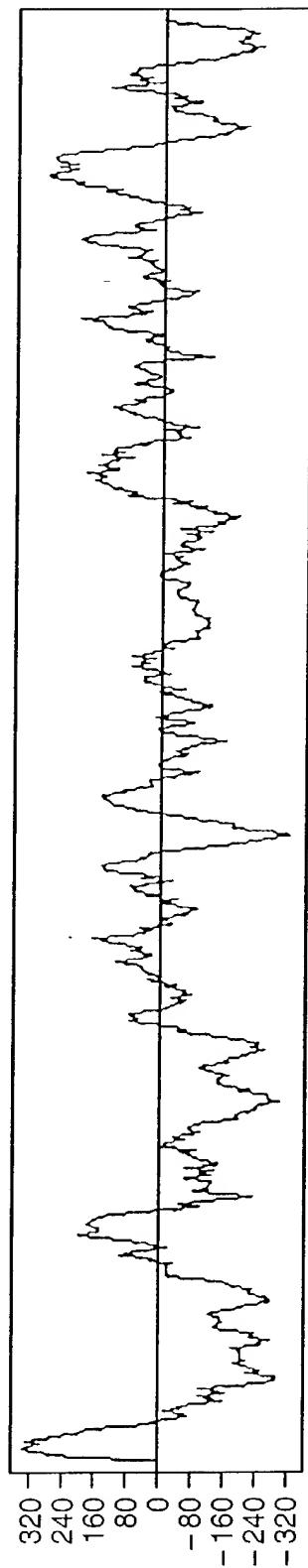


FIG. 1C

4/18

FIG. 2A-1

FIG. 2A-2

FIG. 2A-3

FIG. 2A-4

FIG. 2A-5

FIG. 2A

rat	ATGGAAAGTC TCTGGGGGT CCTGGTATT	CTGCTGG CTGCAGGACT	GCCGCTCCAG	GGGCCAAGC	GGTTC	75	
mouse	ATGGAAAGTC TCTGGGGGT CCTGGGATT	CTGCTGG CTGCAGGACT	GCCTCTCCAG	GCTGCCAAGC	GATT	75	
human	ATGGAAAGTC TCTACTATT CCTGGGATT	CTGCTCCCTGG	CTGCAAGATT	GCCACTTGAT	GCCCCAAC	GATT	75
rat	CGTGATGTGC TGGCCATGA CGAGTATCCG	GATCACATGA GGAGAACAA	CCAATTACGT	GGCTGGTCTT	CAGAT	150	
mouse	CGTGATGTGC TGGCCATGA ACAGTATCCC	GATCACATGA GAGAGCACAA	CCAATTACGT	GGCTGGTCTT	CGGAT	150	
human	CATGATGTGC TGGCAATGA AAGACCTCT	GCTTACATGA GGAGCACAA	TCAATTAAAT	GGCTGGTCTT	CTGAT	150	
rat	GAAAATGAAT GGGATGAACA GCTGTATCCA	GTGTGGAGGA GGGGAGAGGG	CAGATGGAAAG	GACTCCTGGG	AAGGA	225	
mouse	GAAAATGAAT GGGATGAACA CCTGTATCCA	GTGTGGAGGA GGGGAGACGG	CAGGTGGAAAG	GACTCCTGGG	AAGGA	225	
human	GAAAATGACT GGAATGAAAA ACTCTACCA	GTGTGGAAAG GGGGAGACAT	GAGGTGGAAA	AACTCCTGGAA	AGGGA	225	
rat	GGCCGTGTGC AGGCAGCCCT ACCAGTGTAT	TCACCGGCT	TGGTGGGCT	CAATATCACC	TTCGTAGTGA	ACCTG	300
mouse	GGCCGTGTGC AGGCAGCCCT GACCAAGTGTAC	TCACCGGCTC	TGGTGGGCTC	CAATATCACT	TTTGTGGTGA	ACCTG	300
human	GGCCGTGTGC AGGCAGCCCT GACCAAGTGTAC	TCACCAAGCCC	TGGTGGGCTC	AAATATAACA	TTTGCGGTGA	ACCTG	300

FIG. 2A-1

rat	GTGTTCCCCA GATGCCAGAA GGAAAGATGCC AACCGGAATA TCGTCTATGA GAGGAACCTGC AGAAAGTGATT TGAG	375
mouse	GTGTTCCCCA GATGCCAGAA GGAAAGATGCT AATGGCAATA TCGTCTATGA GAAGAACCTGC AGGAATGATT TGGA	375
human	ATATTCCCTA GATGCCAAA GGAAAGATGCC AATGGCAACA TAGTCTATGA GAAGAACCTGC AGAAATGAGG CTGGT	375
rat	CTGGCTTCTG ACCCGTATGT CTACAACTGG ACCACAGGG CAGACGATGA GGACTGGAA GACAACACCA GCCAA	450
mouse	CTGACATCTG ACCTGCATGT CTACAACTGG ACTGCAGGG CAGATGATGG TGACTGGAA GATGGCACCA GCCGA	450
human	TTATCTGCTG ATCCATATGT TTACAACTGG ACAGCATGGT CAGAGGACAG TGACGGGGAA AATGGCACCG GCCAA	
rat	GCCCAGCACC TCAGGTTCCC CGACGGGAG CCCTTCCCTC GCCCCCACCG ACGGAAGAAA TGGAACCTTCG TCTAC	525
mouse	AGCCAGCATC TCAGGTTCCC GGACAGGAGG CCCTTCCCTC GCCCCCATGG ATGGAAGAAA TGAGGCTTTG TCTAC	525
human	AGCCATCATC ACGTCTTCCC TGATGGAAA CCTTTCCCTC ACCACCCGG ATGAGAAGA TGGAATTTCAT TCTAC	525
rat	GTCTTCCACA CACTGGTCA GTATTTCAA AAGCTGGTC AGTGGTCAGC ACAGGTTCT ATAAACACAG TCAAC	600
mouse	GTCTTCCACA CACTGGCCA GTATTTCAA AAACCTGGTC GGTGGTCAGC ACGGGTTCT ATAAACACAG TCAAC	600
human	GTCTTCCACA CACTGGTCA GTATTTCCAG AAATTGGAC GATGGTCAGT GAGAGTTCT GTGAACACAG CCAAT	600
rat	TTGACAGTTG GCCCTCAGGT CATGGAAGTG ATTGTCCTTC GAAGACACGG CGGGCATACT ATTCCCATCT CCAAA	675
mouse	TTGACAGTTG GCCCTCAGGT CATGGAAGTG ACTGTCCTTC GAAGATACGG CGGGCATACT ATTCCCATCT CGAAG	675
human	GTGACACTTG GCCCTCAACT CATGGAAGTG ACTGTCCTACA GAAGACATGG ACGGGCATAT GTTCCCATCG CACAA	675

FIG. 2A-2

rat	GTGAAAGACG	TGTATGTGAT	AACAGATCAG	ATCCCTATAT	TGTTGACCATT	GTACCAAGAAG	AATGACCGGA	ACTCG	750	
mouse	GTGAAAGATG	TGTATGTGAT	AACAGATCAG	ATCCCTGAT	TGTTGACCATT	GTCCAGAAG	AATGACAGGA	ACTTG	750	
human	GTGAAAGATG	TGTACGTGGT	AACAGATCAG	ATTCCCTGAT	TGTTGACTAT	GTTCAGAAG	AACGATCGAA	ATTCA	750	
rat	TCTGATGAAA	CCTTCCCTCAG	AGAACCTCCCC	ATTTCTTCG	ATGTCCTCAT	TCACGATCCC	AGTCATTCC	TCAAC	825	
mouse	TCTGATGAGA	TCTTCCCTCAG	AGAACCTCCCC	ATCGTCTTCG	ATGTCCTCAT	TCATGATCCC	AGCCACTTCC	TCAAC	825	
human	TCCGACGAAA	CCTTCCCTCAA	AGATCTCCCC	ATTATGTTG	ATGTCCTGAT	TCATGATCCC	AGCCACTTCC	TCAAT	825	
rat	TACTCTGCCA	TTTCCCTACAA	GTTGAACTT	GGGGACAACA	CTGGCCTGTT	TGTCTCCAAC	AATCACACTT	TGAAT	900	
mouse	GACTCTGCCA	TTTCCCTACAA	GTTGAACTT	GGGGACAACA	CTGGCCTGTT	TGTCTCCAAC	AATCACACTT	TGAAT	900	
human	TATTCTACCA	TTAACTACAA	GTGGAGCTTC	GGGGATAATA	CTGGCCTGTT	TGTTCACC	AATCATACTG	TGAAT	900	
rat	CACACGTATG	TGCTCAATGG	AACCTTCAAC	TTAACCTCA	CCGTGCAAAC	TGCAGTCCCG	GG-----	-ACCA	966	
mouse	CACACTTATG	TGCTCAATGG	AACCTTCAAC	CTAACCTCA	CCGTGCAAAC	TGCAGTCCC	GG-----	-GCCA	966	
human	CACACGTATG	TGCTCAATGG	AACCTTCAAC	CTAACCTCA	CCGTGAAAGC	TGTCAGC	GGACCTTGTC	CGCCA	975	
rat	-TCCC-CC-T	CACCCACACC	TTGGCCCTTC	TCTTCGACTT	CTCCTTC-	---	GCCTGCA	TCTTCGCTT	CA---	1029
mouse	-TCCC-C--T	--CCC---CC	TTGGCCCTTC	ACTCCGCCT	CACCTTCAAC	TCCGCCCTTA	CCTTCGCCCT	CACCT	1032	
human	CCGCCACAC	CACCCAGACC	TTC-----	-----	-----	-----	-----	-ACC-	1004	

FIG. 2A-3

rat	-----CCCACAT TATCAACACC TAGTCCCTCT TTAATGCCTA CTGGCTACAA ATCCATGGAG CTGACTGACA TTTCC	1101
mouse	TTGCCACAT TATCAACACC TAGCCCCCTCT TTAATGCCTA CTGGCTACAA ATCCATGGAG CTGACTGACA TTTCC	1107
human	-----CACC -----CACC -----CCCTCT TTAGGACCTG CTGGTACAA CCCCTGGAG CTGACTAGGA TTCT	1059
rat	AATGAAAAT GCCGAATAAA CAGATAAGGT TACTTCAGAG CACCATCAC AATTGTAGAT GGAATCCCTAG AAGTC	1176
mouse	AATGAAAAT GCCGAATAAA CAGATAAGGC TACTTCAGAG CACCATCAC AATTGTAGAG GGGATCCCTGG AAGTC	1182
human	GATGAAAAT GCCAGATTAA CAGATAAGGC TACTTTCAAG CACCATCAC AATTGTAGAG GGAATCTTAG AGCTT	1134
rat	AACATCATCC AGGTAGCAGA TGTCCTAACAT CCCACACTGC AGCCTGACAA CTCACTGATG GACTTCATG TGACC	1251
mouse	AGCATCATGC AGATAGCAGA TGTCCTCATG CCCACACCGC AGCCTGCCAA CTCCCTGATG GACTTCACTG TGACC	1257
human	AACATCATCC AGATGACAGA CGTCCTGATG CGCTCTGAAAG CGGCTGCCAT GCTCCCTAATA GACTTTGTCG TGACC	1209
rat	TGCAAAGGGG CCACTCCAC GGAAGCCCTGT ACCGATCATCT CTGACCCAC CTGCCAGATC GCCCAGAACCA GGGTG	1326
mouse	TGCAAAGGGG CCACCCCCAT GGAAGCCCTGT ACCGATCATCT CGACCCAC CTGCCAGATC GCCCAGAACCG GGTC	1332
human	TGCCAAGGGAA GCATTCCCCAC GGAGGTCTGT ACCATCATTT CTGACCCAC CTGGAGATC ACCCAGAACCA CAGTC	1284
rat	TGCAGCCCCG TGCGTGTGGA TGAGCTGTGC CTCCCTGTCCG TGAGGAGGC CTTCAATGGG TCCGGCACGT ACTGT	1401
mouse	TGCAGCCCTG TGCGTGTGGA TGGCTGTGC TGAGAAAGAGC CTTCAATGGG TCTGGCACCT ACTGT	1407
human	TGCAGCCCTG TGCGTACTG TGAGATGTGT CTGACTG TGAGACGAAC CTTCAATGGG TCTGGGACGT ACTGT	1359

FIG. 2A-4

rat	GTGAAATTCA	CTCTGGGAGA	CGATGCAAGC	CTGGCCCTCA	CGAGGCCCT	GATCTCTATC	CCTGGCAAAG	ACCTA	1476
mouse	GTGAAATTCA	CTCTGGGAGA	TGATGCAAGC	CTGGCCCTCA	CGAGCACCT	GATCTCTATC	CCTGGCAAAG	ACCCA	1482
human	GTGAAACTCA	CCCTGGGGAA	TGACACAAGC	CTGGCTCTCA	CGAGCACCT	GATTCTGTT	CCTGACAGAG	ACCCA	1434
rat	GGCTCCCCCTC	TGAGAACAGT	GAATGGTGT	CTGATCTCCA	TGGCTGCCT	GGCATGTT	GTCAACCAGG	TTACC	1551
mouse	GACTCCCCCTC	TGAGAACAGT	GAATGGTGT	CTGATCTCCA	TGGCTGCCT	GGCTGTGCT	GTCAACCAGG	TTACC	1557
human	GCCTCGCCCT	TAAGGATGGC	AAACAGTGGC	CTGATCTCCG	TGGCTGCCT	GGCATATT	GTCACTGTGA	TCTCC	1509
rat	ATCTTGCTGT	ACAAAAAAACA	CAAGAAGTAC	AAGCCAAATAG	GAAACTGCA	CAGGAACGTC	GTCAAGGGCA	AAGGC	1626
mouse	ATCTTGCTGT	ACAAAAAAACA	CAAGGCGTAC	AAGCCAAATAG	GAAACTGCC	CAGGAACAGC	GTCAAGGGCA	AGGGC	1632
human	CTCTTGCTGT	ACAAAAAAACA	CAAGGAATAAC	AACCCAAATAG	AAAATAGTC	TGGGAATGTC	GTCAAGGGCA	AAGGC	1584
rat	CTGAGTGT	TTCTCAGCCA	TGCAAAAGCC	CCGTTCTCCC	GAGGAGACCG	GGAGAAGGAT	CCACTGCTCC	AGGAC	1701
mouse	CTGAGTGT	TCCTCAGTC	CGCGAAAAGCC	CCGTTCTCC	GAGGAGACCA	GGAGAAGGAT	CCATTGCTCC	AGGAC	1707
human	CTGAGTGT	TTCTCAACCG	TGCAAAAGCC	GTGTTCTCC	CGGGAAACCA	GGAAAGGAT	CCGCTACTC	---AA	1655
rat	AAGCCATGGA	TGCTCTAA	-----	-----	-----	-----	-----	-----	1719
mouse	AAGCCAAGGA	CACTCTAA	-----	-----	-----	-----	-----	-----	1725
human	AAACCAAGGA	---TTTAAG	GACTTTCTTA	A	-----	-----	-----	-----	1683

FIG. 2A-5

rat	MESLCGVILF	LLAAGLPLQ	AAKRERDVLG	HEQYPDHMRE	NNQLRGWSSD	50	FIG. 2B-1
mouse	MESLCGVILGF	LLAAGLPLQ	AAKRERDVLG	HEQYPDHMRE	HNQLRGWSSD	50	
human	MECLYYFLGF	LLAARLPLD	AAKRFHDVLG	NERPSAYMRE	HNQLNGWSSD	50	
rat	ENEWDEQLYP	VWRRGEGRWK	DSWEGGRVQA	ALTSDSPALV	GSNITFVVNL	100	
mouse	ENEWDEHLYP	VWRRGDGRWK	DSWEGGRVQA	VLTSDDSPALV	GSNITFVVNL	100	FIG. 2B
human	ENDWNEKLYP	VWKRGDMRWK	NSWKGGGRVQA	VLTSDDSPALV	GSNITFAVNL	100	
rat	VFPRCQKEDA	NGNIVYERN	RSDLELASDP	YVYNWTTGAD	DEDWEDNTSQ	150	
mouse	VFPRCQKEDA	NGNIVYEKNC	RNDLGLTSDL	HVYNWTAGAD	DGDWEDGTSR	150	
human	IFPRCQKEDA	NGNIVYEKNC	RNEAGLSADP	YVYNWTAWSE	DSDGENGTGQ	150	
rat	GQHLRFPDGK	PFPPRHGRKK	WNFVYVFHTL	GQYFQKLGQC	SARVSINTVN	200	
mouse	SQHLRFPDRR	PFPPRHGWKK	WSFVYVFHTL	GQYFQKLGRC	SARVSINTVN	200	
human	SHHNVFPDGK	PFPHHPGWRR	WNFIYVFHTL	GQYFQKLGRC	SVRVSVNTAN	200	
rat	LTVGPQVMEV	IVFRRHGRAY	IPISKVKDGY	VITDQIPIFV	TMYQKNDRNS	250	
mouse	LTAGPQVMEV	TVFRRYGRAY	IPISKVKDGY	VITDQIPFV	TMSQKNDRNL	250	
human	VTLGPOQLMEV	TVYRRHGRAY	VPIAQVKDGY	VVTDQIPFV	TMFQKNDRNS	250	
rat	SDETLRLDP	IFFDVLILHDP	SHFLNYSAILS	YKWNFGDNTG	LFVSNHHTLN	300	
mouse	SDETLRLDP	IFFDVLILHDP	SHFLNDSAIS	YKWNFGDNTG	LFVSNHHTLN	300	
human	SDETFLKLDLP	IMFDVLILHDP	SHFLNYSTIN	YKWSFGDNTG	LFVSTNHTVN	300	

10/18

FIG. 2B-1

FIG. 2B-2

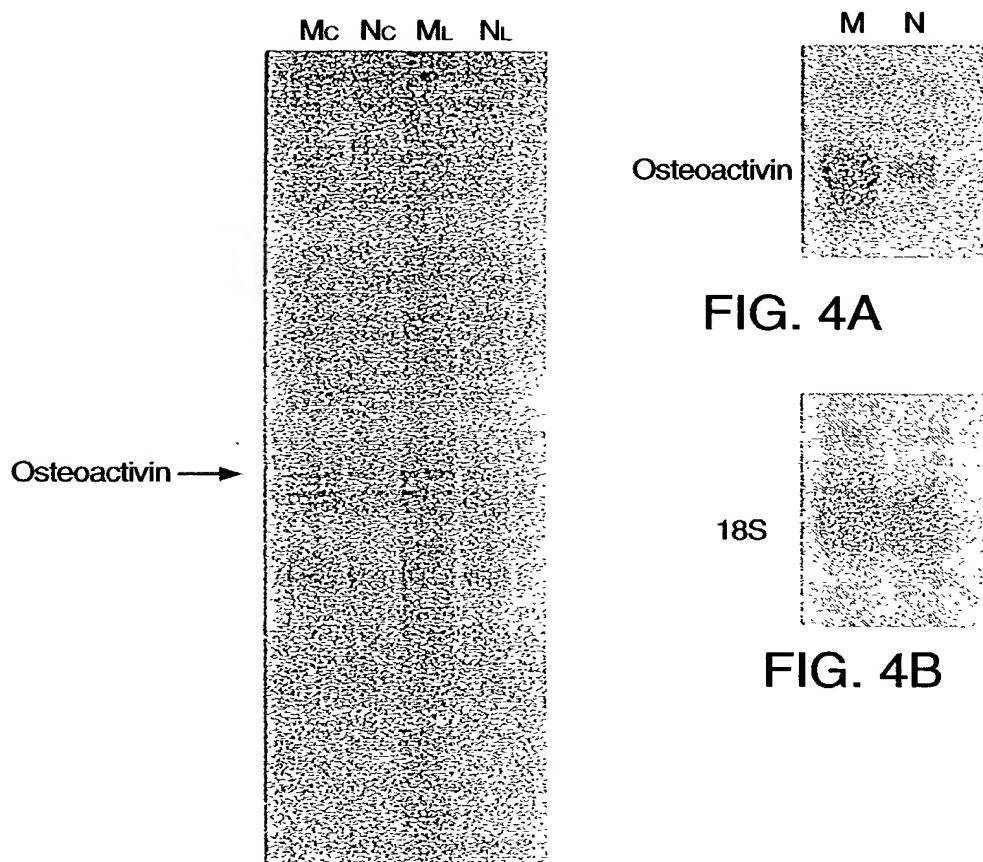


FIG. 3

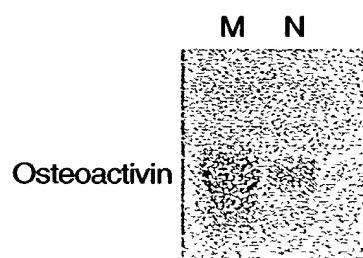


FIG. 4A

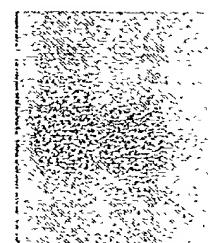


FIG. 4B

13/18

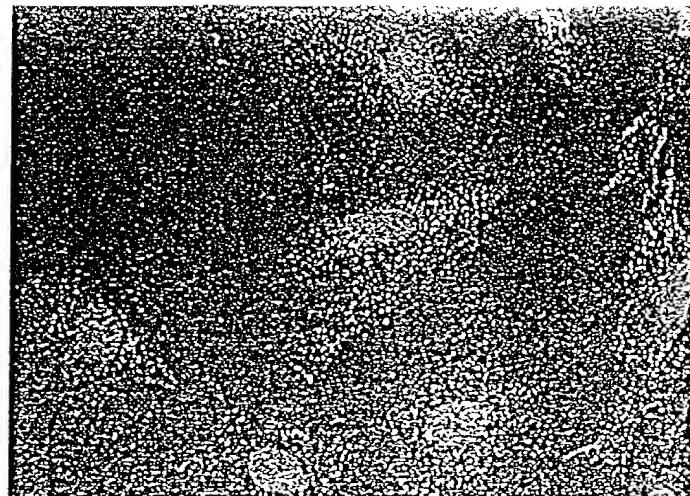


FIG. 5

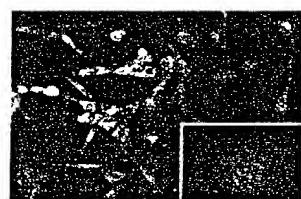


FIG. 5A

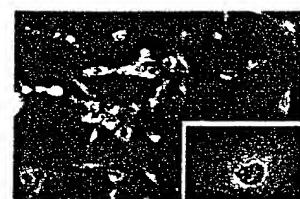


FIG. 5B

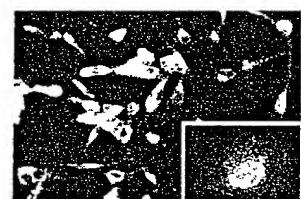


FIG. 5C

14/18

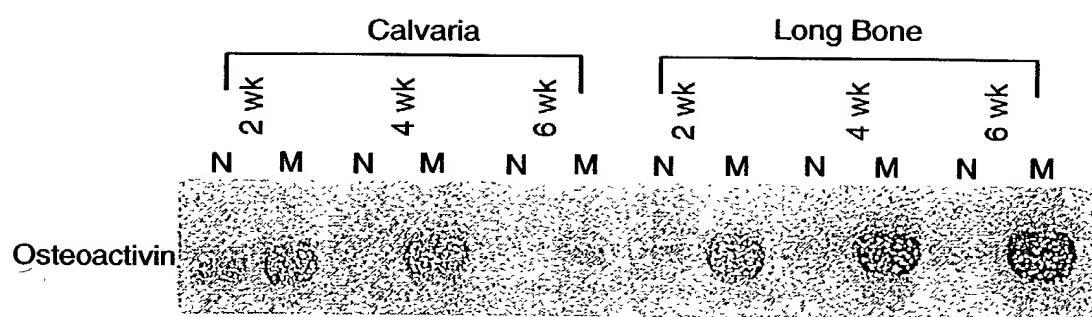


FIG. 6

15/18

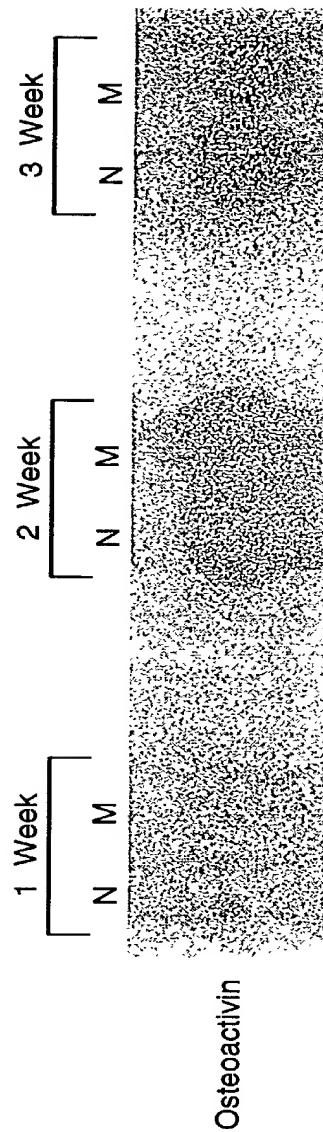


FIG. 7A

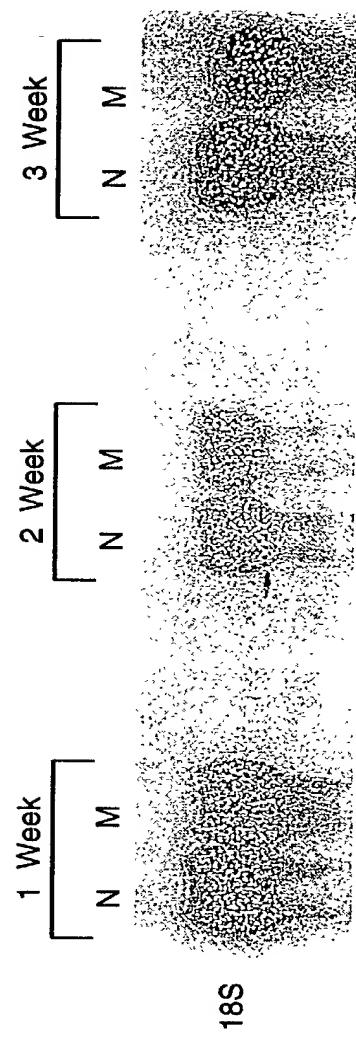


FIG. 7B

16/18

N (1wk) M (1wk)

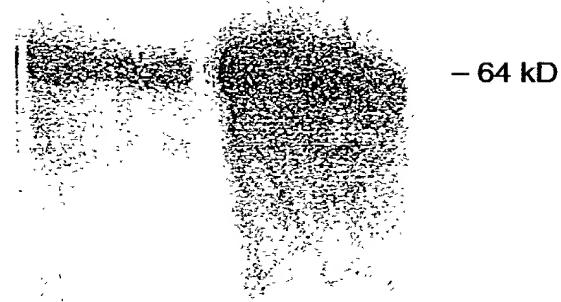
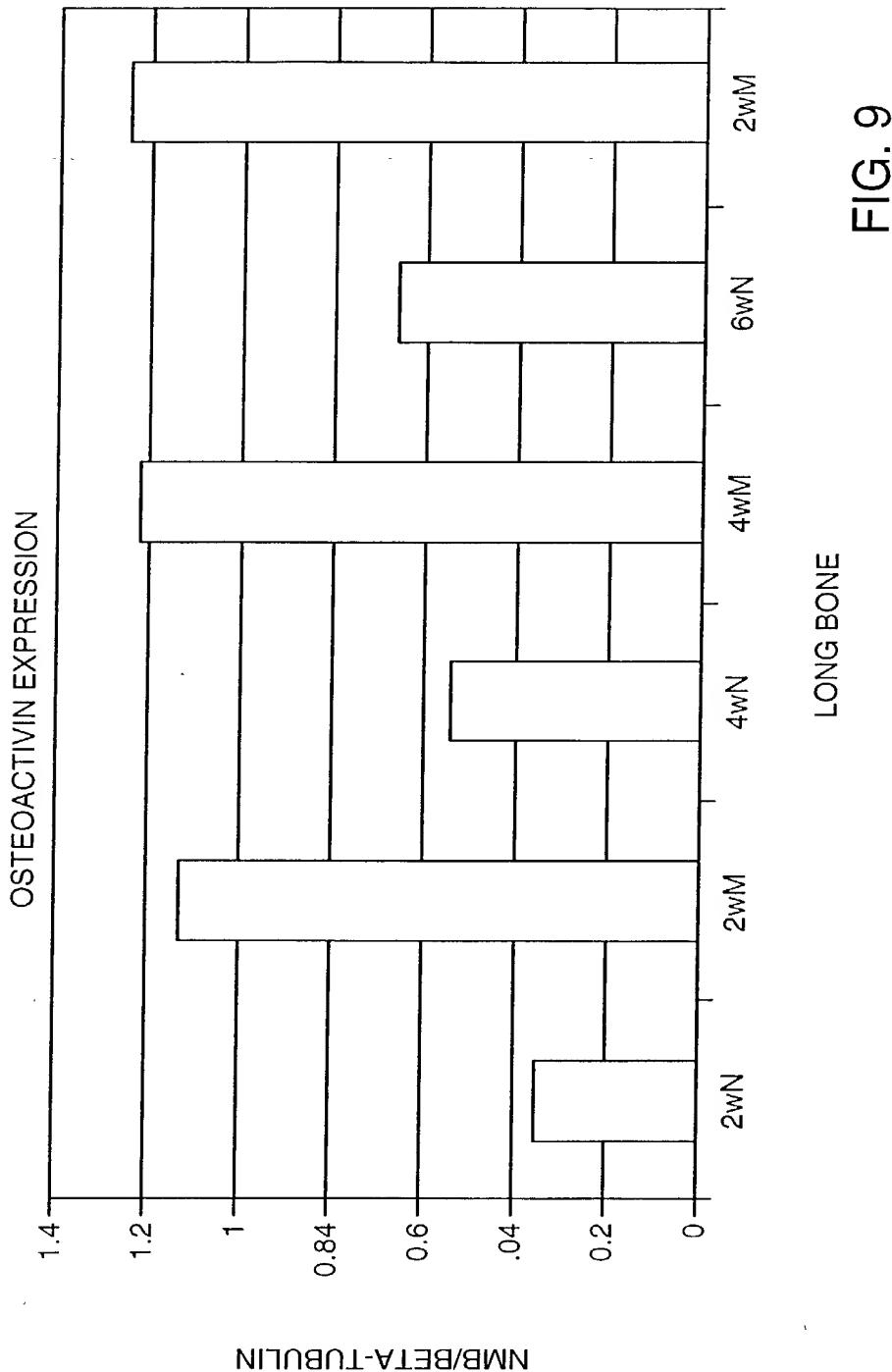


FIG. 8



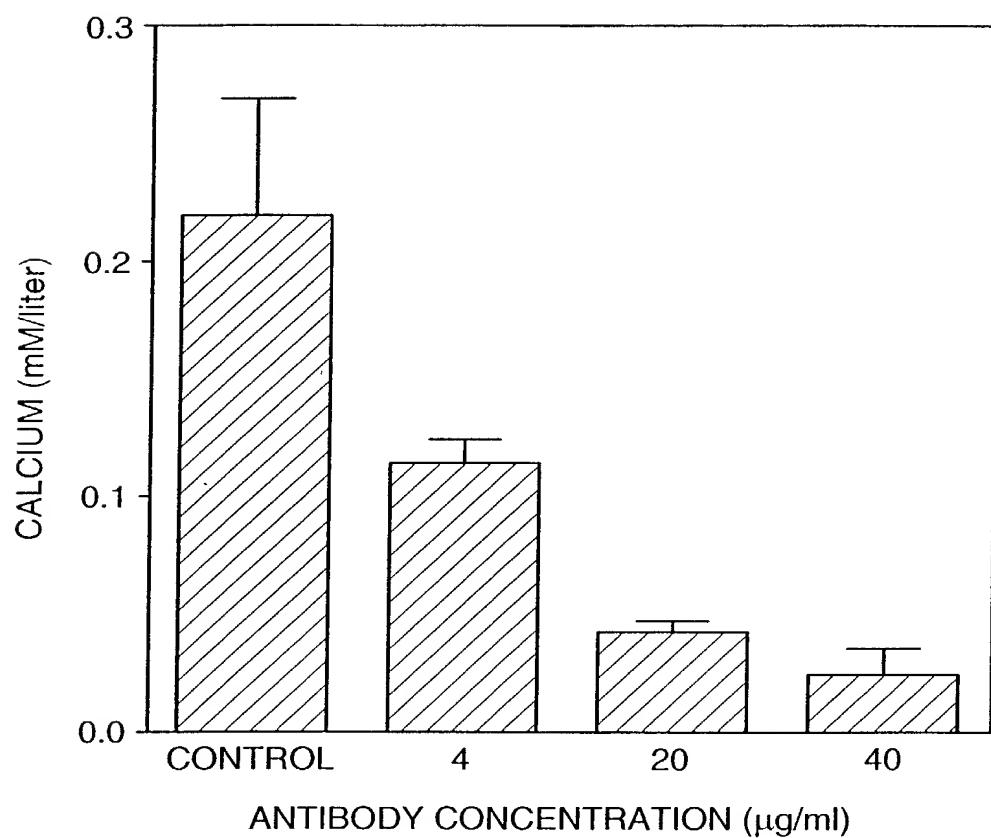


FIG. 10